

## From the CEO

s concerns mount about escalating costs in so many areas related to energy, Santee Cooper's board, management and workforce remain focused on and committed to delivering lowcost, reliable and environmentally protective electricity and water to our 2 million direct and indirect customers across the state.

Santee Cooper continues to do all we can to hold the line on costs and negotiate best terms on fuel and other variables: the price of fuel accounts for more than half of our operating budget, and so it is a major emphasis for us. We are ratcheting down spending in all areas while continuing to provide reliable power for our customers. Look for articles in this PowerSource that reveal some of the ways we are controlling costs and saving money.

increases and uncertainty for our customers from potential and recently enacted environmental regulations - threats that could drive our country's manufacturing base overseas and bring job development to a screeching halt. That is not what we need as we limp through a rickety recovery from the worst economic downturn since the Great Depression.

Rest assured, Santee Cooper is working to educate regulators and policymakers about these potential cost impacts. We have testified in Environmental Protection Agency hearings against a proposal for disposal of combustion byproducts, a proposal that would gut our successful recycling program and significantly complicate our long-term storage plans. Just recently, I testified to a U.S. House Energy and Commerce Subcommittee on Energy and Power, urging that they prohibit EPA from attempting to regulate greenhouse



I remain concerned about the threat of significant cost gases under the Clean Air Act — an important and useful act that was never intended to address greenhouse gases. Rather, Congress needs to thoughtfully weigh the many environmental and economic considerations and set new policy addressing greenhouse gases.

> Santee Cooper is a leader in implementing environmental control technology and recycling our byproducts. We are proud of our significant — and non-mandated — programs to increase our customers' energy efficiency and our own renewable energy generation. We also know the importance of efficiently balancing these priorities with our other responsibility: to generate low-cost and reliable electricity now — as our state and our country seek to regain our economic footing — and beyond

**Lonnie N. Carter President and Chief Executive Officer** 





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Spring 2011— Vol. 11, No. 2 PowerSource is published by Santee Cooper Corporate Communications. Use of materials is not authorized without permission of the editor. Address all correspondence to: Corporate Communications, Santee Cooper

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#### THIS I S S U E

**Reducing Our Use** By Nicole A. Aiello Photography by Jim Huff

**How We Roll** By Kevin F. Langston Photography by Jim Huff

Playcard Environmental 26 **Learning Center** By Willard Strong

Photography by Jim Huff

NewSource 34





About the cover: These solar panels are among more than 1,300 comprising the Grand Strand Solar Station. Read more on page 18.

# ReDUUMG

By Nicole A. Aiello

Photography by

Jim Huff

Walk the talk. Put your money where your mouth is. Practice what you preach.

We've all heard these classic American idioms from our parents, friends or colleagues, usually when we're boasting about a great idea or, more often, when we need to follow our own advice.

#### And advice always seems to be in abundance.

antee Cooper has promoted advice on energy efficiency for customers, and the results of those changes are noteworthy. decades, and the utility has repackaged and freshened that campaign over the past year and a half. Reduce The Use With the changes implemented so far, Santee Cooper is saving more seeks to motivate customers to save energy and money. With Reduce energy saved to power more than 194 homes for the year. the Use's large number of rebate programs, like residential refrigerator

rebates and commercial lighting rebates, Santee Cooper has been vociferously encouraging customers to get on board by saving energy.

And though Santee Cooper is proud of the way customers have taken the bull by the horns, the company isn't all talk and no action. As a matter of fact, Santee Cooper began walking the talk by making systematic energy-saving improvements to its facilities before the company rolled out its Reduce The Use program to

South Carolina, a decade-long energy efficiency program, than 3.4 million kilowatt-hours of energy per year. That's enough

Those results didn't happen overnight, though.

After the board of directors reaffirmed the corporate commitment to conservation in October 2007, the utility's energy services department spearheaded a review of ways Santee Cooper could save energy Enthusiasm for saving energy is at the heart of the department, and employees were excited to dig in.

Just ask Patrick Howle, supervisor of Santee Cooper's commercial energy services division. Howle's zest is





apparent, and he's quick to talk about how Santee Cooper employees' hard work and dedication paved the way for change.

"The Energy Services team did an extensive review of Santee Cooper's buildings, searching for ways to be more energy efficient in day-to-day operations," Howle said. "We found that there were obvious changes we could make with some of our larger pieces of equipment, like HVAC units. Those big changes are where we focused at first."

Based on recommendations from the Energy Services team, Santee Cooper upgraded 106 HVAC units, ranging from a 40-ton unit at Winyah Generating Station to a 1.5-ton unit at the Lake Marion Spillway maintenance facility. The HVAC changes account for 899,982 kWhs saved each year.

It was a good start, but the biggest energy savings would be found directly over everyone's heads.

#### Smallest changes, big impacts

While part of the team was working on the HVAC upgrade project, other members were shining a light on something most of us take for granted – light bulbs.

"What ended up intriguing us the most was how much energy savings could be achieved if we upgraded our light fixtures," Howle explained. "When we dug deeper, we realized these seemingly smaller changes were the key to energy-saving success.



Patrick Howle, supervisor of commercial energy services, discusses how Santee Cooper walked the talk by implementing a variety of company-wide energy-saving changes.

Above left: An upgraded HVAC unit provides energy savings at Santee Cooper's Moncks Corner operations

Sometimes the smallest changes make the biggest impacts."

That's where Byron Colvis comes into the picture. Colvis, the principal engineer in the commercial energy services department, had a challenge ahead of him, including manually counting each light fixture and light bulb in a majority of Santee Cooper's facilities. Santee Cooper had already replaced traditional incandescent light bulbs throughout its facilities with more energy-efficient compact fluorescent bulbs, and the new review focused on removing the stalwarts of commercial lighting: T12 fixtures.

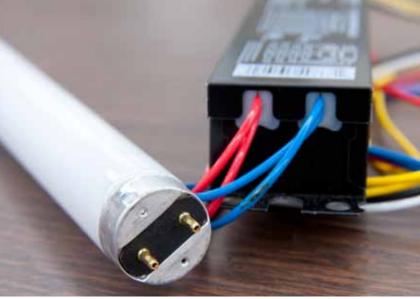


"Initially, we studied the Winyah Generating Station, and the turbine building was a bit of a surprise story," Colvis explained. "Because of the nature of the work in that area, the lights stay on around the clock. Through our assessments, we discovered we had more than 1,000 old, inefficient fluorescent T12 light fixtures in that location alone, which was when we realized the scope of how much energy lighting could save us."

Before jumping into the lighting arena with both feet, Colvis and other energy advisors got advice from lighting experts.

"We knew we had a big project ahead of us," Colvis said. "So we made calls to the experts at GE and Sylvania. We went out in the field with them to get their ideas and hear their opinions. We needed to learn the industry's terms and truly grasp a few basic principles of lighting."

Weighing a variety of options, Colvis elected to retrofit the existing T12 fluorescent fixtures. The old magnetic ballasts were replaced with



Above: Donnie Bullard, maintenance crew supervisor at Winyah Generating Station, talks with Commercial Energy Services Principal Engineer Byron Colvis about the lighting changes at Winyah's railcar repair facility.

More than 6,600 light fixtures were upgraded at Santee Cooper facilities and most of those were retrofitted for use with high-efficiency T8 bulbs and electronic ballasts.



Supervisor Marvin Lane shows off the reflectivity of the new CoolStar roof at Santee Cooper's

Crews worked to install the energy-efficient roof

Horry-Georgetown office.

low-ballast factor ballasts, and new energy efficient T8 lamps replaced the old T12 lamps, one for one.

By the end of the lighting upgrade project, Santee Cooper upgraded 6,623 light fixtures, accounting for 2.5 million-kWhs saved per year.

While lighting fixtures, light bulbs and HVAC units make up a majority of Santee Cooper's energy savings, other projects contributed as

At the Horry-Georgetown headquarters in Myrtle Beach, crews were still working in March of this year to complete the installation of an energy-saving roof. The new roof has a CoolStar reflectant surface, which exceeds ENERGY STAR® standards and will help reduce energy costs by at least 30 percent. Instead of the average black ply sheet or gravel roof, the new CoolStar roof is white.

At Grainger Generating Station in Conway, the windows received a facelift. Commercial Key Account Representative Margaret McGougan said when assessing the circa-1966 building, she realized it was cost-prohibitive to replace all of the older, single-pane windows with higher efficiency double-pane glass.

Instead, window film was installed on 158 west-facing windows that receive the strongest sunlight throughout the year. McGougan said that change alone resulted in 2,695 kWhs saved per year.

Although the energy management team performed the assessments and was intimately involved in the project, energy savings has been a collaborative project with many employees helping to make it successful.

"There were a large number of projects, big and small, and the facility managers did a lot of the hard work by implementing all the changes," Howle said. "Our job was to get the ball rolling and to get people thinking differently about saving energy."

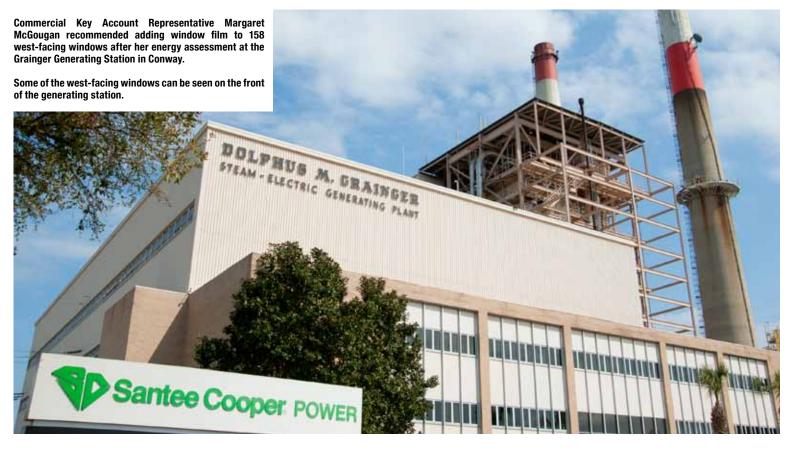
#### Reducing the Use

Another fortuitous result came out of Santee Cooper's energy-saving crusade. Assessing facilities, learning the best ways to implement energy savings and working through unexpected problems gave Santee Cooper's energy management team added expertise. That expertise became instrumental in helping Santee Cooper customers arrive at energy savings of their own once Reduce The Use was rolled out.

"Assessing more than 6,000 light fixtures at Santee Cooper facilities definitely increased my knowledge and skills," Colvis said. "It was highly advantageous for us to work on our own energy issues before asking our customers to do the same. Plus, it gave us the opportunity to practice what we preach, which gives us added credibility with customers."

Customers interested in finding out ways to save energy can visit www.ReduceTheUse. com or call 843-347-3399 ext. 3093 in Horry and Georgetown counties or 843-761-8000 ext. 3093 in Berkeley County. Energy experts like Howle, Colvis and McGougan will be awaiting your call and will be, ahem, tickled pink to help you save energy. PS









is comprised of more than 2,100 pieces of equipment ranging in size from D11 bulldozers that weigh more than 230,000 pounds to backpack leaf blowers that weigh about 23 pounds. Tasked with keeping this equipment running are the 26 employees who make up Santee Cooper's transportation services department.

Top: Ricky Winter, Fleet Manager

Right: James Milton, Fleet Technician A, uses a handheld scan tool for computer diagnostics on a Ford Explorer.

Santee Cooper's fleet As fleet manager, it's Ricky Winter's job to see fleet technicians, supervisors Mackie Driggers parts room personnel who work out of the utility's headquarters in Moncks Corner.

"We handle anything that is a mobile asset,

that Santee Cooper's fleet is running efficiently and reliably. He does this with the help of 16 and Todd Barlow, specifications writer Pete Risher, an administrative associate and transportation services shop located at the

from the bulldozers at the coal yards to chain saws, air compressors and welding machines," Winter says. "In Moncks Corner we're responsible for about 1,600 pieces of equipment."

A second transportation services shop is located adjacent to Santee Cooper's Horry-Georgetown Division office in Myrtle Beach, where the utility's distribution operations are

"We have 500 pieces of equipment in the Horry-Georgetown area," says Manager of Distribution Operations Neil James. "That includes tractor trailers, forklifts, backhoes, trenchers, cars, bucket trucks, line trucks even a locomotive at the Grainger Generating Station in Conway."

The Horry-Georgetown transportation services shop is comprised of five technicians, one stores specialist and their supervisor.







Top: Brian Moorer, Fleet Technician A, fabricates new ramps for a 60-ton low-boy trailer used by Santee Cooper construction services.

Bottom: Roy Smith, Paint and Body Repairer A, sandblasts a portable generator, which is used by Santee Cooper's energy services group.

Combined, these two shops and their 21 fleet technicians can perform a comprehensive range of maintenance and repair services.

"Our co-workers, who we consider our customers, need us for what we do, and my philosophy is to do the best job for them that we can," Winter says. "From bumper to bumper, there's nothing our technicians can't or don't do."

Both Winter and James agree that constantly changing technologies present mechanics with some of their biggest challenges.

"This is no longer a purely mechanical job," James says. "These machines have highly sophisticated electrical systems that then power the mechanical aspects."

Winter says people might be surprised at how technical a mechanic's job has become.

"Every year, we get a batch of vehicles that we haven't touched before. All that technology rolls





in the door at once, and it touches all makes Computerized engines and hybrid technology on computer controlled electronic brake hallmark throughout the utility's 77 years. systems, fuel injection and ignition systems. We've got technicians who have to wear the "Money is always tight, and back then, Santee same high-voltage gloves that line crews wear. 

Cooper was growing fast. So we made what When we're working on the Prius, that's a we needed. That's just how we did things, 400-volt DC battery. We had a week-long training class for that vehicle alone."

a hybrid bucket truck that is run out of ourselves." Conway.

now, and it's been a great truck," Winter says. "We've seen a 50-percent fuel economy large and diverse fleet up and running. increase using that truck in certain situations."

of modes of equipment. The sedans, the are, of course, a far cry from the challenges heavy trucks, the heavy equipment — our that Transportation Services faced during guys have to be computer technicians as Santee Cooper's infancy, but the unit's well as mechanics," he says. "We're working adaptability and ingenuity has remained a

and it's really how the shop started," Winter says. "Santee Cooper would buy the chassis. We would build our body. We'd buy the In addition to two plug-in hybrid Priuses, aerial device or digger derrick from the Transportation Services also maintains manufacturer and mount it on the truck

Winter says transportation services still "It's been in service for about two years handles a lot of fabrication work but is primarily focused on keeping Santee Cooper's

Top: David Coffey, Fleet Technician A, services the suspension and engine on a pickup truck used at **Cross Generating Station.** 

Bottom, left: Curtis Dubose, Fleet Technician A, rebuilds an engine for a bulldozer used at Cross

Bottom, right: David Laws, Fleet Technician A, adds oil to a Ford F550 service bucket truck.



#### William Disher, Fleet Technician A, prepares a mower for use at facilities in Moncks Corner.

"We're proactive with preventative maintenance because it saves us money in the long run," he says. "At the same time, we've got to respond to repairs quickly, whether it's a bucket truck, coal dozer or forklift. Our customers rely on this equipment. They can't do their jobs until we do our jobs."

Winter says Santee Cooper's fleet technicians take a lot of pride in the work they do and are quite happy to do it.

"We have guys who enjoy working on sedans and pickup trucks, and then we have people who really like to work on heavy equipment," Winter says. "And we're glad to have them, too, because that is some heavy, dirty, greasy, nasty work. It's on a completely different scale. The battery in a normal vehicle weighs about 30 pounds, but the battery in a D11 weighs 100 pounds."

Adds James, "I can't say enough about the caring and the can-do attitude of our mechanics."

In addition to supervising the Moncks Corner shop's day-today operations, Winter also monitors the overall condition of the fleet, which requires intimate knowledge of every piece of equipment as well as a concept of the bigger picture. Winter credits his experience as a specifications writer for Transportation Services for serving him greatly in this capacity.

"As a spec writer, I was in touch with every part of Santee Cooper that owns and operates fleets," he says. "Ultimately, we would work with our customers to meet their expectations of what that particular piece of equipment would be. It gets pretty involved."

Winter says Transportation Services conducts a fleet review every year and reviews every single piece of fleet equipment that the company owns. From that point, his team members make decisions on what needs to be replaced and when





A Caterpillar D9 bulldozer moves mountains of coal at the Winyah Generating Station. In 2010, Santee Cooper's coal-moving equipment operated almost 20,000 hours.



"We look for the most cost-effective option for Santee Cooper to do its job efficiently," Winter says. "We keep some of these machines for 10 to 15, and in some cases, 20 years. So we focus on quality, price and also longevity."

As a way of benchmarking performance, transportation services categorizes its repairs by component codes, which enables unit employees to track the number of work orders completed on a specific system (e.g. brakes, lights, starters).

"In 2010 we benchmarked ourselves against 41 other utility fleets. Our shops were either leading or in the top 25 percent for the best performance and most cost effective repairs in the nation," Winter says. "We analyze trends or anomalies. What's driving those costs? Is it usage, poor performance, or something else? We have discussions on where some of our larger-cost repairs are coming from and whether it's more cost the public through auctions or sealed effective to purchase a new piece of equipment or continue making repairs."

and equipment, transportation services works with Santee Cooper's investment recovery department, who then offers the old models to the public through auctions or sealed bid opportunities. The department

James says they also converse with the equipment operators to get a better understanding Cooper's GOFER (Give Oil for of the fleet's performance in the field.

Energy Recovery) program, where it

"We have a strong working relationship with our crews and equipment operators," James says. "Our supervisor will quite often go out into the areas when we have our safety meetings and listen firsthand to concerns our crews might have about particular pieces of equipment. Likewise, he can share what he's seeing from a maintenance and repair perspective."



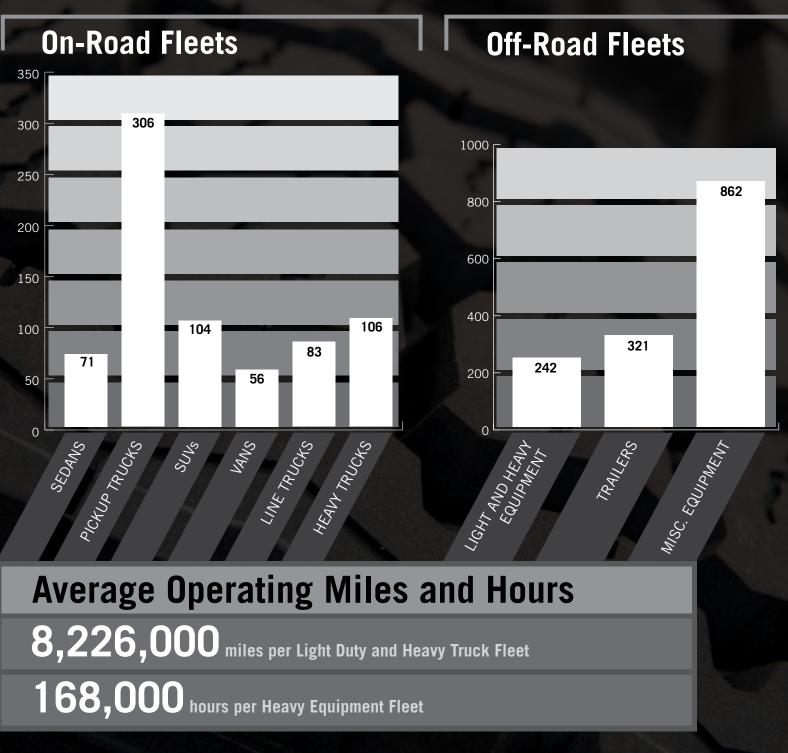
When it comes time to replace vehicles and equipment, transportation services works with Santee Cooper's investment recovery department, who then offers the old models to the public through auctions or sealed bid opportunities. The department also donates its used oil to Santee Cooper's GOFER (Give Oil for Energy Recovery) program, where it is reused as fuel to generate electricity, and employees recycle batteries, scrap metal, plastics, tires, wood and many other materials.

"We're very conscious about reducing our waste stream," Winter says.

senior meter reader, refuels his fleet pickup at the transportation services building in Moncks Corner. Santee Cooper has 10 refueling sites throughout the company.

Above: Danny Cummings, crew supervisor of bulk materials, stands atop the locomotive used to move coal cars at Grainger Generating Station in Conway.

## SANTEE COOPER FLEET



as of January 1, 2011

## STOVING STEEN Shows the Berkeley A MW STOVING By Mollie Gore Photography by Jim Huff

power. We are still the only utility generating renewable power from all-South Carolina resources.

"Green is a universal symbol for moving forward," representing financial success, progress and good environmental stewardship, wrote then-Santee Cooper president and CEO John Tiencken in the fall 2001 issue of PowerSource that also featured the utility's first Green Power Generating Station, "turning waste into watts" at the Horry County Landfill.

Santee Cooper Green Power is the foundation for the utility's renewable energy program. Green Power, certified by Green-e Energy for meeting environmental and consumer protection standards, is generated at our landfill Green Power stations, solar installations and a new wind turbine. Santee Cooper sells Green Power at a premium to our customers, too, and their voluntary purchases are fully reinvested in the development of additional renewable energy.





Green means go, and never more so than the past three years. As 2007 drew to a close, Santee Cooper announced a new unit focused on leading the utility's efforts to increase renewable energy generation. Three years later, that focus on reliable, affordable renewable generation has equaled a morethan 1,300-percent increase in that part of Santee Cooper's portfolio: from 13 megawatts in 2007 to 184 MWs online or under contract today.

That's enough electricity to power approximately 100,000 average-sized households in South Carolina.

In announcing the new effort in 2007, President and CEO Lonnie Carter said, "Santee Cooper has been a leader in protecting our environment, being the first utility in the state to offer Green Power, generating electricity using landfill gas, promoting conservation and energy efficiency, installing state-of-the-art emission control technology, and funding nnovative research into alternative forms of energy. Today's announcement strengthens those initiatives by creating an organizational structure that accurately reflects our commitment, and setting goals that stretch us to do the very best for our customers and our environment."

Santee Cooper has steadily stretched since that date, and today's generating portfolio represents a decade of firsts:

• The landfill biogas generation today totals 28 MWs, including the original 2.2-MW station in Horry County. The latest

Santee Cooper launched its solar energy program with the 2006 dedication of this solar pavilion at Coastal Carolina University.

Technician A Ronald Crosby inspects one of the engines at Santee Cooper's new 3-MW Berkeley Green Power Generating Station.

addition is a 3-MW Berkeley County Green Power Generating Station, which went online in February.

- The successful Green Power Solar Schools program, where Santee Cooper, working with local electric cooperatives in most cases, provided 2-kW solar arrays to middle schools (thanks to Green Power funding!) around the state to serve as a foundation for the schools' renewable energy curriculum. Santee Cooper also worked with state educators who developed the curriculum to meet state math and science standards, and worked with the co-ops to create kits of materials for lab work. There are 20 Solar School installations around the state.
- The state's first solar installation connected to the grid was the 16-kW solar pavilion Santee Cooper donated to Coastal Carolina University and dedicated in 2006.
- Santee Cooper worked with the Aiken Electric Cooperative and Palmetto Electric Cooperative to install 20-kW solar arrays at the Center for Hydrogen Research and Technical College of the Lowcountry, respectively. These were the largest solar installations serving the state at the time of their dedications.







- In 2008, Santee Cooper announced its first biomass generation contract, for 50 MWs to be generated by Rollcast Energy at a plant to be built in Newberry County. The biomass energy will be fueled by forest waste. In late 2010, Santee Cooper's board of directors approved several other contracts with biomass providers that will generate and sell to Santee Cooper another 100 MWs of wood-waste biomass and the first of those projects, with Domtar Paper Co. LLC, is already providing renewable electricity for Santee Cooper customers.
- November brought another first to the state: a utility installing a wind turbine and connecting it to the grid. Santee Cooper installed a 2-kw wind turbine along the coast in North Myrtle Beach and with that, launched its Wind Education Project. Goals include promoting education and awareness about wind energy, its costs, and its opportunities and limitations. Santee Cooper continues to research the potential for wind energy, a process it began with land-based wind mapping in 2005 and now focuses its efforts evaluating its costs, reliability and feasibility.
- Santee Cooper announced in January the construction of the state's first anaerobic digester, which will generate electricity from methane gas at a hog farm. As with the landfill gas generation, the project removes an environmental hazard methane gas is 21 times more potent a greenhouse gas than carbon dioxide and turns it into renewable power. Environmental Fabrics Inc. will build, own and operate the digester at Burrows Hall farm in Williamsburg County; Santee Cooper is buying the electricity and offering it to its electric customers. The project is expected to be online this summer.

Just this month, Santee Cooper dedicated the state's largest solar installation to date, the Grand Strand Solar Station. The 311-kw array is located on rooftops and a field at Santee Cooper's 10th Avenue warehouse facilities in Myrtle Beach.

Marc Tye, senior vice president of customer service and leader of the three-year-old initiative to increase renewable generation, acknowledged it's been a busy time for his renewable energy group, and he emphasized that much of the success rests in support from our board of directors, other Santee Cooper departments and external stakeholders.

"The board's been very, very supportive," Tye said. "They have challenged us consistently to do more, to stretch farther, and to act faster than we might have originally planned. That's a good problem to have."

In many ways, the Grand Strand Solar Station symbolizes both the successes of the past and a blueprint for the future of renewable generation at Santee Cooper. It continues a buildup in a program that began in 2006, and it especially shows the power of partnerships in paying for a renewable resource that otherwise would be too expensive to implement in a larger array.



The Grand Strand Solar Station includes rooftopmounted solar arrays totaling 252 kW. The solar installation was partially funded by a South Carolina Energy Office grant and also by Santee Cooper customers who voluntarily purchase Santee Cooper Green Power.

Santee Cooper is funding \$845,798 of the total \$1.3 million project cost, including \$500,000 from Green Power revenues provided when Santee Cooper customers choose to purchase Green Power blocks at \$3 or more per month. Santee Cooper also secured a grant from the South Carolina Energy Office for the remaining \$475,000. The SCEO grant is funded by the American Recovery and Reinvestment Act.

Santee Cooper has a goal of generating 250 MWs of renewable energy in addition to its landfill biogas projects by 2020. After three years, Tye's group has 156 MWs of that 250 accounted for, or 68 percent of the goal. Some 87 percent of the current online and contracted renewable portfolio is woody biomass.

At a presentation to the board in January, Tye noted that Santee Cooper "is ahead of schedule in our plan to acquire renewable generation by 2020. That allows us the time to continue to determine what is in the best interests of our customers moving forward."

Technologies are rapidly changing and evolving and could bring the cost of some renewable generation down, Tye said. There is also considerable uncertainty in the future of federal and state legislative and regulatory requirements concerning power generation. Santee Cooper is working harder than ever to balance financial, reliability and environmental needs to keep electricity affordable for existing customers and those looking to relocate their homes and businesses here.

The board approved a new resolution at that January meeting, to diversify Santee Cooper's renewable energy portfolio with nonwoody biomass resources where possible, by continuing to investigate technologies such as off-shore wind, vertical-axis on-shore wind, solar, wave and tidal, low-impact hydro, landfill gas, wastewater, and others that may emerge.

Tye noted that all of Santee Cooper's work has been voluntary: South Carolina has no mandates for renewable energy.

"I am proud of what our department has accomplished in three short years, and we are successful in large part because of all the work that came before us, back to 2001 and even earlier. Santee Cooper has a strong track record in renewable generation, and we have worked hard to advance that record," Tye said. "I am also pleased that we are now ahead of the curve and can take the time to shape the next phase of our renewable resource development for Santee Cooper customers."

With so many uncertainties in the regulatory and legislative arenas, it is more important than ever to make prudent decisions that put Santee Cooper's customers' best interests first and balance cost and environmental stewardship, Tye said. "As we did in 2001, we are looking for new projects to green-light, and again that green light will represent progress, financial success and environmental stewardship for customers and our state. We've got a great track record to build on, and who knows what the next decade will bring."

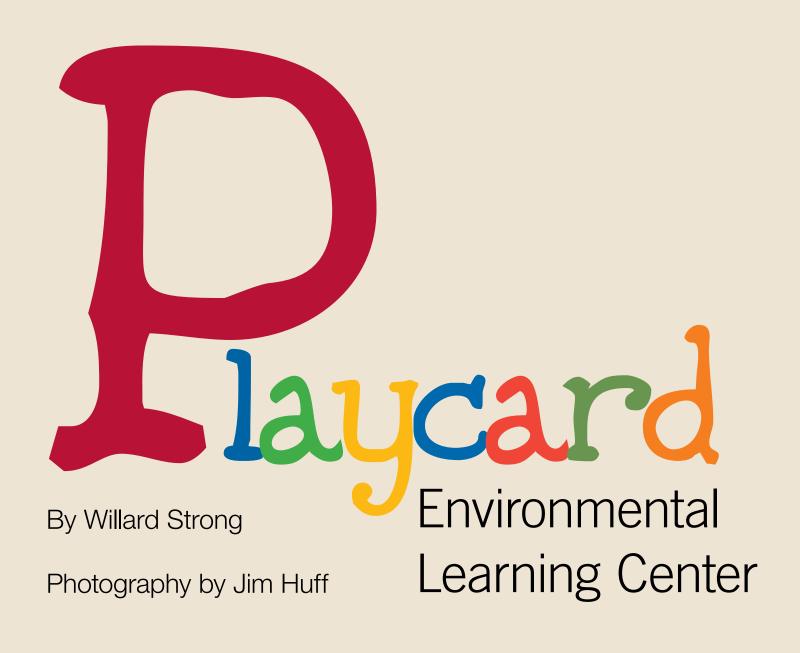


The Wind Energy Project's 2.7-kW Skystream wind turbine catches a breeze on North Myrtle Beach's coast.

Right: Santee Cooper President and CEO Lonnie Carter dedicates a 20-kW solar project at the Center for Hydrogen Research in Aiken. The array is helping advance research into renewable energy use in developing hydrogen fuel cells.





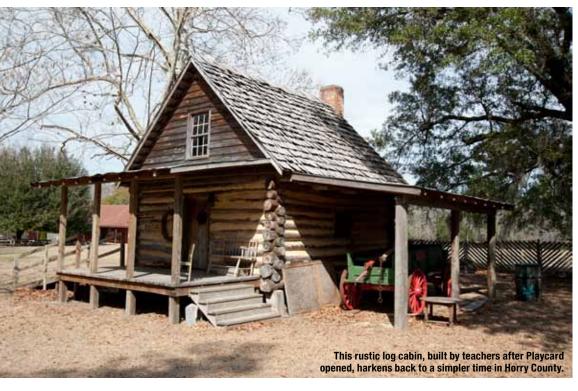


A day of teaching, learning, growing





bout 15 miles north of Conway, a 220-acre tract of land stands as a living testament to all that was good about our rural ancestors, their values - and the natural world in which they lived.



This property hosts a rustic, period-furnished log cabin, a beaver dam with a small wooden ferry, and forests and fields for frolic and reconnecting with nature. Since 1987, it's where dedicated personnel and volunteers come together to connect young and old to the natural world.

This is the Playcard Environmental Learning Center, where computers, cell phones and texting, at least for a few hours or days, take a rest while nature, flora and fauna come into sharper focus. It targets, as one might imagine, kindergarten through 12th-grade students.

The Playcard Environmental Education Center is committed to fostering knowledge of the relatedness of plants, animals, soil, water and people through teaching the natural sciences in the special world of a blackwater swamp. Although primarily focused on Horry County, it provides a model for environmental education centers across the Southeast.

Ben Abercrombie, whose job title is "teacher/ manager," presides over Playcard, greeting students and their teachers as they disembark by bus. He sets the tone for the day and is assisted by Leanna McMillan, an intern and a senior at Coastal Carolina University.

"What we try to do," Abercrombie says, "is to give students the opportunity to learn hands-on in a natural setting. We want students to think of themselves as part of the ecosystem, not the dominant force within it."

Inside the main building there's a sign that reads, "Playcard welcomes you to discover the exciting fascination and love of nature and the outdoors and to learn to respect the value of humans and the environment."

On a dry-erase board nearby, four words are written: leadership, motivation, planning, and communication; life skills as universal as they are timeless. Those four words will soon come to the fore on this mild February day.



Although an asset obviously intended to be enjoyed by Horry building Playcard style, with as County students, the district generously allows youngsters, teachers and administrators from nearby school districts access time will allow. to the facility. On this day, the bus pulling up to Playcard's main building is from neighboring Marion County, where Mullins High School is located.

The 17 students, male and female in grades nine through 11, are enrolled in the school's Marine Corps Junior ROTC program. They're under the watchful command of retired Lt. Col. Charles "Chuck" De Preker. He's accompanied by Master Sgt. Ray Bryant, also retired.

Dressed in camouflaged fatigues, De Preker and Bryant might suggest the students are in for a Parris Island-style day of pushups, calisthenics and one-mile runs. But echoes of "sir, yes sir" and "sir, no excuse sir" it isn't. They're there for team of Natural Resources. The

much environmental education as

Their orientation in the classroom with Abercrombie begins discussing how to avoid being bitten by fire ants and snakes. The snake-talk takeaway? "Freeze and then back away slowly. They're as afraid of you as you are of them.

This room contains stuffed animals indigenous to the Pee Dee, in action poses and largely provided the by S.C. Department



Above: Ben Abercrombie is the on-site manager and teacher at Playcard. "As many as 30 percent of today's youth, younger than age 14, have never been in the wilderness past where they could see a human dwelling," he says. "Playcard brings a little of that wilderness to them."

A retired Marine, Lt. Col. Charles "Chuck" De Preker had never visited Playcard but at the end of his visit vowed, "We'll be back."



impressive collection of taxidermy includes black bears, bobcats, white-tailed deer fawns, gray foxes, striped skunks, jack rabbits, fox squirrels, flying squirrels, river otters, blue herons, raccoons, opossums, great horned owls and screech owls. "Al," a small live alligator, animates the collection.

There are two coyotes, a recent, unwelcome species inhabiting South Carolina and the Southeast. The predator is now being vilified for disrupting the balance of a stable ecosystem.

Left: Abercrombie pays close attention as a Mullins High School





Playcard began with the Horry County Conservation Foundation, a non-profit organization formed in 1981. According to the Day, held school district, these founding fathers "were men in farming, government and business, all with agricultural connections, all convinced that Horry's natural resources must be wisely used to protect future generations."

These leaders were James P. Blanton, James E. Griffith, Shelton T. Hayes, S.F. Horton, Ernest W. Johnston Jr., Sam B. McQueen, Robert L. Squires, Ardent L. Stephens and W.D. Witherspoon. The Foundation's vision was to foster projects geared toward educating adults as well as youngsters. Following the acquisition corporation and became independent of the Horry County of 200 acres of property in an area called Playcard Swamp, the founders recruited people for their board of directors who had backgrounds in education and agriculture.

They chose a spot to build the center's large classroom, office, restrooms and kitchen on relatively high property on S.C. Highway 19, about a tenth of a mile off S.C. Highway 410. The and skills that benefit students in all classrooms. public was formally introduced to Playcard and the completed buildings at Swampfest '87, Playcard's inaugural open house Abercrombie says approximately 10,000 students, teachers, and the center's signature annual event, held each November.

Baby Animal These critters, the result of skilled taxidermy, greet visitors coming through the front door at Playcard. The animals on display are all found in Horry County April, is also a big draw, and

and the Pee Dee section of South Carolina.

Santee Cooper's GOFER usually attends to promote the utility's used motor oil recycling program.

This popularity soon prompted the Horry County School District to provide a teacher to begin teaching classes onsite. Coastal Carolina University also began utilizing Playcard for teaching and research. In 1989, Playcard was chartered as a non-profit Conservation Foundation.

It is from this solid start that thousands of students from public and private schools have beaten a path to rural Horry County. Workshops for teachers enhance continuing education opportunities for the school district, thus advancing knowledge

administrators and parents visit Playcard each year. Each takes away something unique to them from the experience.



#### Abercrombie (right) emphasizes that trust and teamwork are the key to accomplishing assigned tasks in the field.

Venturing outdoors, Abercrombie leads the students into the woods and breaks them into groups. They are presented challenges that require teamwork and resourcefulness. One involves safely swinging across a shallow muddy ditch while clinging to a rope. The group quickly realizes they can't accomplish the task on their own and must depend on each other to successfully complete the task.

This obviously pleases De Preker and Bryant, who offer encouragement to their young charges. Some are initially skeptical about any chance of making it to the other side. But in the end, the short exercise gets

### "Playcard is a wonderful place for students to learn and grow."

-Barbara Allen. Santee Cooper Director of Educational Programs

This sets the stage for the zip line. Abercrombie climbs a tall tower, attaches a hook to an elevated metal cable, clasps the hook and hops off the tower, zipping downward for about 250 feet on the cable before slowing down as he approached the end of the line and stepping onto the ground again.

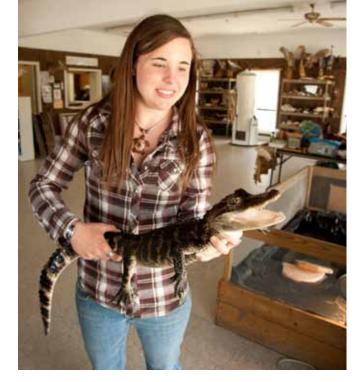
It's the final exercise of their four-hour visit. After donning the appropriate safety gear, Abercrombie carefully climbs the tower as the students gaze upward, apprehensive about the prospect of tackling a seemingly insurmountable task.

Yet one by one, most of the students nervously climb the tower to join Abercrombie for the exhilarating adventure, releasing their fears in primal screams during the swift 10- or 15-second excursion back to terra firma.

"This is a great venue," says De Preker, who is already talking about a return trip. "Kudos to the instructor, Ben. It's very rewarding to see these kids do what they did today."

Before boarding their bus, Abercrombie asks, "Tell me one thing you learned today."

"Teamwork!" the students shout enthusiastically.



"We had to use a lot of strategies to solve problems," says junior Portia Phillips. "We learned to listen."

Sophomore Dalton Stewart says, "It was a great experience. I'd like to come back."

"Playcard is a wonderful place for students to learn and grow," says Barbara Allen, Santee Cooper's director of educational programs "It is an exceptional resource, and Ben is so enthusiastic and brings a level of passion to the experience at Playcard that is so inspiring.'

Teal Britton, the school district's public information officer, says Playcard has meant a lot to her own two boys, age 7 and 4. Already Playcard veterans, they both eagerly anticipate their next visit.

"The farther we get from nature," she says, "the more we need places like Playcard. It's nice that forward-thinking leaders decades ago made a commitment to leave us this lasting legacy." PS



Top left: Intern Leanna McMillan, a senior at Coastal Carolina University, holds "Al," Playcard's alligator.

Top right: A bobcat, an indigenous feline in South Carolina, strikes a ferocious pose to

Right: One can learn rattlesnake, particularly if it's not alive like this handled by Mullins High School student Brandon Legette.



## news<sup>2011</sup> SPRINGSOUTCE

#### **Carter testifies to Congress**

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Santee Cooper President and CEO Lonnie Carter provided testimony in February to the Subcommittee on Energy and Power of the U.S. House Energy and Commerce state and national averages in the annual survey. Committee in Washington, D.C. to address the regulation of greenhouse gases under the Clean Air Act.

Carter spoke to the concern that proposed and recently enacted greenhouse gas regulations will result in higher costs and greater uncertainty for customers. "The Clean Air Act was simply not designed to address greenhouse gas emissions. Continuing on a path toward regulating greenhouse gas emissions under the Clean Air Act could stifle the already slow permitting process, raise costs, and limit economic development and industrial growth around our country at a time when we need jobs the most," Carter said.

Carter urged the committee to let Congress set policy on such far-reaching energy issues, to ensure a balanced and thoughtful approach that factor in the cost impacts of these regulations to customers.

#### **Customer satisfaction? Yes!**

Santee Cooper's yearly customer satisfaction survey indicates residential customers are significantly more satisfied with Santee Cooper than are customers of other South Carolina and national utilities.

According to MarketSearch, 97.6 percent of Santee Cooper residential customers were satisfied with the state-owned utility in 2010. By comparison, the average for South

Carolina utilities was 87.3 percent, and the national average was 83.9 percent. Santee Cooper has consistently outscored

Other highlights show near perfect scores that reflect customers' positive attitudes toward reliability of service and quality of power, minimizing and restoring outages, and Santee Cooper's reputation. In terms of Santee Cooper's environmental record, nearly all - or 98 percent - of residential customers say they are satisfied with Santee Cooper's conservation programs, which help customers use energy more efficiently. In addition, 97 percent said Santee Cooper is concerned about the environment, while 95 percent agree Santee Cooper is doing a good job protecting the environment.

#### Pig power

Officials with Santee Cooper, Environmental Fabrics, Inc. and Clemson University announced in January the construction of a new renewable energy facility, the first of its kind in South Carolina, that will generate power from methane gas captured at a Williamsburg County hog farm and deliver it to electric customers on the Santee Cooper

The 180-kilowatt Burrows Hall Renewable Energy Facility, a true public-private partnership with many benefits across the state, is expected to begin generating renewable energy for the grid early this summer - enough to power approximately 90 average South Carolina homes. The project also involves Santee Electric Cooperative, the South Carolina Energy Office and the South Carolina Department of Agriculture.

The announcement came four years after Duffy Connolly, owner of Burrows Hall Farm, approached Santee Cooper with an idea of building an anaerobic digester that could capture methane gas, naturally produced on his hog farm, and turn that methane into a fuel source for electricity.

"Santee Cooper's electricity includes power generated from landfill biogas, forest-waste biomass, solar and wind, and now we can add agricultural biogas to the lineup," said Marc Tye, senior vice president of customer service.

#### Mini-Bond sales set

The Santee Cooper Board of Directors approved a 2011 Mini-Bond program that features two sales this year, making it easier for South Carolinians to participate in the popular tax-free investment

The first sale will be from April 1-29, and the second sale will be from Oct. 1-31. Interest rates will be set just prior to each sale, based on recommendations from Santee Cooper's financial adviser, and the chief financial officer will authorize final sale amounts and percentage rates. Visit www.scminibonds.com for more information. PS



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